

## Lake Carr Lake Vegetation Index Results (8-4-2016)

The Lake Vegetation Index (LVI) is a multi-metric index that evaluates how closely a lake's plant community resembles one that would be expected in a condition of minimal human disturbance. It is based on a rapid field assessment of aquatic and wetland plants as indicators of various effects of human disturbance over time. Plants respond to physical disturbances such as introduction of exotic species or lakeshore alterations,

and chemical disturbance such as introduction of excess nutrients, particulates, or herbicides from the surrounding land uses.

The LVI method is performed from a boat, and involves dividing a lake into 12 units and identifying plants in 4 of the 12 units (Figure 1). Plants are identified in the selected unit by a visual boat "drive by" and also via a transect approach. The resulting data is used to calculate the LVI and is evaluated according to the scoring system in Table 1.

**TABLE 1. Category names, ranges of values for LVI, and example descriptions of biological conditions typically found for that category.**

<i>Aquatic life use category</i>	<i>LVI Range</i>	<i>Description</i>
Exceptional	78–100	Nearly every plant present is a species native to Florida, invasive taxa typically not found. About 30% of taxa present are identified as sensitive to disturbance.
Healthy	43–77	About 85% of plant taxa are native to Florida; invasive taxa present. Sensitive taxa have declined to about 15%.
Impaired	0–42	About 70% of plant taxa are native to Florida. Invasive taxa may represent up to 1/3 of total taxa. Less than 10% of the taxa are sensitive.

The Lake Vegetation Index score for Lake Carr was 64, placing the lake's vegetative community in the healthy category.

Sixty two plant species were found during the survey. The native species, fanwort (*Cabomba caroliniana*), and fragrant waterlily (*Nymphaea odorata*) were the most dominant plants in the lake. Other native shoreline vegetation included; American sweetgum (*Liquidambar styraciflua*), buttonbush (*Cephalanthus occidentalis*) and dotted smartweed (*Polygonum punctatum*). Unfortunately, water hyacinth (*Eichhornia crassipes*), torpedo grass (*Panicum repens*)

Chinese tallow (*Sapium sebiferum*) and hydrilla (*Hydrilla verticillata*) all listed as Category I Invasive Exotics by the Florida Exotic Pest Control Council <http://www.fleppc.org/> are invasive exotics that are a concern in Lake Carr. Another invasive exotic, Alligator weed (*Alternanthera philoxeroides*), was a Category II Invasive Exotic found in the lake. Burhead sedge (*Oxycaryum cubense*) was another exotic that is found on the tussocks floating throughout the lake.

For a complete list of plants found during the LVI survey, please see Table 2.

**TABLE 2. Scientific and common names of the plants identified during the Lake Carr LVI survey (8-4-16).**

<b>Scientific Name</b>	<b>Common Name</b>
<i>Acer rubrum</i>	red maple
<b><i>Alternanthera philoxeroides</i>(II)</b>	alligator weed
<i>Andropogon</i> sp.	broomsedge
<i>Bacopa caroliniana</i>	lemon bacopa
<i>Bidens laevis</i>	smooth beggartick
<i>Bidens mitis</i>	smallfruit beggartick
<i>Boehmeria cylindrica</i>	false nettle
<i>Brasenia schreberi</i>	watershield
<i>Cabomba caroliniana</i>	fanwort
<i>Cephalanthus occidentalis</i>	buttonbush
<i>Ceratophyllum demersum</i>	coontail
<i>Decodon verticillatus</i>	swamp loosestrife
<i>Diospyros virginiana</i>	common persimmon
<i>Dulichium arundinaceum</i>	three-way sedge
<b><i>Eichhornia crassipes</i> (I)</b>	water hyacinth
<i>Eleocharis baldwinii</i>	road-grass
<i>Eleocharis equisetoides</i>	jointed spikesedge
<i>Eupatorium capillifolium</i>	dogfennel
<i>Fuirena pumila</i>	dwarf umbrella sedge
<i>Habenaria repens</i>	water spider orchid
<b><i>Hydrilla verticillata</i> (I)</b>	hydrilla
<i>Hydrocotyle</i> sp.	water pennywort
<i>Juncus marginatus</i>	grassleaf rush
<i>Leersia hexandra</i>	southern cutgrass
<i>Limnobium spongia</i>	frog's bit
<i>Liquidamber styraciflua</i>	American sweetgum
<i>Ludwigia arcuata</i>	needleleaf ludwigia
<i>Ludwigia decurrens</i>	wingleaf primrose willow
<i>Ludwigia sphaerocarpa</i>	globe-fruited primrose willow
<i>Lycopus rubellus</i>	taperleaf water horehound
<i>Mikania scandens</i>	climbing hempvine
<i>Myriophyllum pinnatum</i>	cutleaf watermilfoil
<i>Nelumbo lutea</i>	American lotus
<i>Nuphar</i> sp.	spatterdock
<i>Nymphaea odorata</i>	fragrant waterlily
<i>Nymphoides aquatica</i>	banana lilly
<b><i>Oxycaryum cubense</i></b>	burhead sedge
<i>Panicum hemitomon</i>	maidencane

Scientific Name	Common Name
<b><i>Panicum repens(I)</i></b>	torpedo grass
<i>Polygonum hirsutum</i>	hairy smartweed
<i>Polygonum punctatum</i>	dotted smartweed
<i>Pontederia cordata</i>	pickerelweed
<i>Quercus nigra</i>	water oak
<i>Quercus virginiana</i>	southern live oak
<i>Rhus sp.</i>	sumac
<i>Rhynchospora inundata</i>	narrowfruit horned beaksedge
<i>Rhynchospora nitens</i>	short beaked beaksedge
<i>Sagittaria lancifolia</i>	duck potato
<i>Sagittaria latifolia</i>	broadleaf arrowhead
<i>Salix carolina</i>	coastal plain willow
<b><i>Sapium sebiferum (I)</i></b>	Chinese tallow tree
<i>Scirpus cyperinus</i>	woolgrass
<i>Smilax rotundifolia</i>	bullbrier
<i>Triadenum virginicum</i>	marsh st. johnswort
<i>Typha sp.</i>	cattail
<i>Utricularia floridana</i>	Florida yellow bladderwort
<i>Utricularia biflora (U. gibba)</i>	humped bladderwort
<i>Utricularia foliosa</i>	leafy bladderwort
<i>Utricularia inflata</i>	floating bladderwort
<i>Utricularia purpurea</i>	eastern purple bladderwort
<i>Vitis rotundifolia</i>	muscadine
<i>Xyris sp.</i>	yelloweyed grass

I - Category I Invasive Exotics

II - Category II Invasive Exotics

For additional information about the LVI please go to the Florida Department of Environmental Protection webpage;

[http://www.dep.state.fl.us/water/sas/training/docs/lvi\\_primer.pdf](http://www.dep.state.fl.us/water/sas/training/docs/lvi_primer.pdf).

For additional information about exotic Category I and II invasive exotic plants, please go to the Florida Exotic Pest Plant Council

<http://www.fleppc.org/list/list.htm>.



**FIGURE 1. Lake Carr showing unit divisions. Circled numbers denote surveyed units.**